

CAN AVOCADOS BE PRODUCED IN SANTA MARIA-SAN LUIS OBISPO AREA?

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The potential exists for expanding avocado production in California in the central coastal area near Santa Maria and San Luis Obispo.

If an avocado producing district develops here, it will be of modest size, due to a number of limiting factors. But favorable resources do exist for avocados in a number of small selected sites.

Many dooryard trees exist in this potential area, but the first commercial plantings were made within the past two or three years, all of which should still be considered experimental. Several of these new plantings have already been frozen out while others are growing very well.

The overall area lies between the coast range mountains and the Pacific Ocean and extends from the Santa Maria Valley and its surrounding foothills northward along the coast to about Cambria.

Based on observations during the past several years and an analysis of climatic, soil, and water data, the following review of the necessary production factors for avocados will outline the potential.

1. CLIMATE — The overall favorable plant-climate zone is "Coastal," as mapped by the University of California, Agricultural Extension Service¹. The area mapped "Maritime," along the coastline, although mild temperature-wise, is subject to strong prevailing winds off the Pacific ocean that have a tree-stunting, fruit-scarring effect on avocados. The more interior "Transition" zone is too extreme for avocados.

a. Frost Hazard — Information, to date, suggests minimum temperatures vary from an occasional of about 30 degrees in the warmest locations to frequent occurrences of 20 degrees and below in the colder spots. Usually the higher ground is warmer and the area experiences the typical "ceiling" conditions of other southern California avocado producing areas. Thus, local terrain features should be studied and temperature data recorded for several years before the frost hazard of a given location is estimated.

b. Summer heat—The fog and prevailing wind from the Pacific ocean cools the area during the spring and summer; often the warmest period of the year is in September and October when the morning fogs and afternoon breezes give way to warm, clear weather. Thus, the horticultural season is delayed about one month behind the Santa Barbara-Ventura area and at least two months behind costal San Diego County. The

above analysis of climatic data has been corroborated by observations of the maturity of several avocado varieties from dooryard trees.

Another effect of temperature is cold soil during early spring periods. It would probably be better to delay nursery tree planting until the soils have warmed, which may not be until May. Tree growth rates are at their maximum in the fall and this means they are often subject to considerable damage by early cold snaps, unless protection is provided.

c. Wind — Most of the area is subject to strong, prevailing northwest, on-shore winds that are both chilling and injurious. Hot, dry, desert winds, so often a problem in other avocado areas, are nearly nonexistent here. Only locations behind hills and other natural terrain features, or where windbreaks are planted well in advance of the avocado trees, should be considered. Even in these sheltered locations, individual tree protectors are desirable for the first two or three years.

2. SOIL — The region has a great mixture of soils, but many are fine-textured in the foothill locations where the climatic factors are most favorable. Most of the soil series are untried for avocados elsewhere in California. Problems could be expected from Phytophthora Root Rot if the fungus were to be introduced, from iron chlorosis in the limestone areas, and from Asphyxiation in periods of heavy rainfall. Considerably more experience is needed to accurately assess these clay soils as suitable for avocados. Many of the recent alluvial valley soils and the weathered sand dune type soils would appear to be excellent avocado soils.

3. WATER — The availability of irrigation water depends on local wells; some areas are adequate, others have almost none. Some individual wells have poor water quality for a salt-sensitive crop such as avocados. The overall area is water deficient and this could be a limiting factor for sizeable avocado and citrus orchard developments.

As for the marketing opportunities, it would appear that summer maturing varieties, such as the Hass, could be held into early fall to take advantage of the short supply and higher price pattern that usually occurs then.

The frost resistant varieties, such as Bacon, if they produce well, would probably mature at a time when the market is usually heavily supplied in the spring.

In summary, the avocado production potential for selected suitable orchard locations in the Santa Maria-San Luis Obispo area would appear to be cautiously optimistic.

¹ *The Climate of Santa Barbara County. "Climatological Data and Plant Climate Map" Agric. Ext. Service, Santa Barbara Co., 1965 and "Plant Climate Map, San Luis Obispo County" Agric. Ext. Service, San Luis Obispo County, 1964.*